

Focused Site Inspection Prioritization Report

for

General Hydraulics

USEPA ID No. ILD 984 767 806

August 31, 1995

Prepared for
U.S. Environmental Protection Agency
Contract 68-W8-0064
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For U.S. Environmental Protection Agency, Region V

Approved by: Alan Altman

Date: 9/27/95

For Illinois Environmental Protection Agency

Approved by: _____

Date: _____

EPA Region 5 Records Ctr.



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1.0 Introduction

On December 13, 1994, the Alternative Remedial Contracting Strategy (ARCS) V contractor, was authorized, by approval of the work plan amendment by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct a focused site inspection prioritization (FSIP) of several sites in Illinois.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) established a federal program for responding to the risks posed by uncontrolled releases of hazardous substances. CERCLA required the federal government to establish criteria for setting priorities among releases or threatened releases and specified these criteria be used to establish the National Priorities List. The USEPA responded to these mandates by developing the Hazard Ranking System (HRS) to more accurately quantify the relative risk posed by hazardous waste substance releases. A revised HRS was published in December 1990.

The objective of the FSIP is to review the outstanding screening site inspections (SSIs) performed before the implementation of the revised HRS for which a final decision has not been made regarding further action. The FSIP will determine whether the existing SSI information meets a minimum standard to reflect the revised HRS and if not, collect additional information by file review, reconnaissance, and sampling on an as-needed basis. The FSIP will evaluate the threats posed to human health and the environment and provide sufficient documentation for USEPA to decide the appropriate future course of action (No Further Remedial Action Planned, further evaluation, or preparation of HRS package).

2.0 Site Background

2.1 Site History

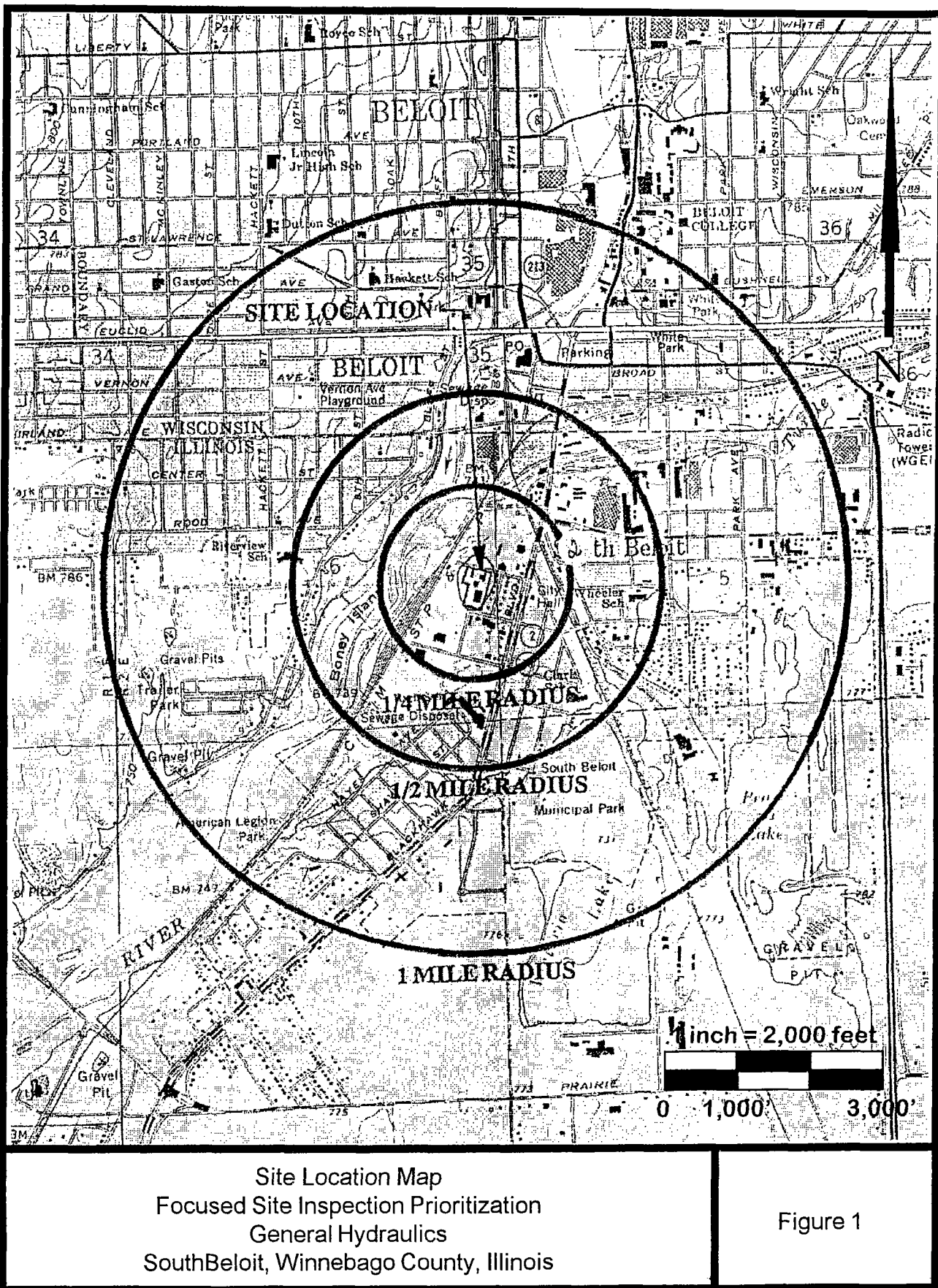
The General Hydraulics site is located in an industrial and residential area near the center of the City of South Beloit, Winnebago County, Illinois (southeast quarter of Section 6, Township 46 North, Range 2 East). A site location map is included in Figure 1.

Before the early 1950s, the General Hydraulics site was owned by the Chicago, Minneapolis, St. Paul, and Peoria Railroad as part of their right-of-way. The railroad allowed fill material to be dumped in swampy areas of the site, thus raising its elevation and leveling the site for future uses. Mr. Glen Hanson, the owner of General Hydraulics, purchased 8 acres from the railroad in the early 1950s. He began manufacturing various equipment such as farm sprayers, mowers, and snow blowers.

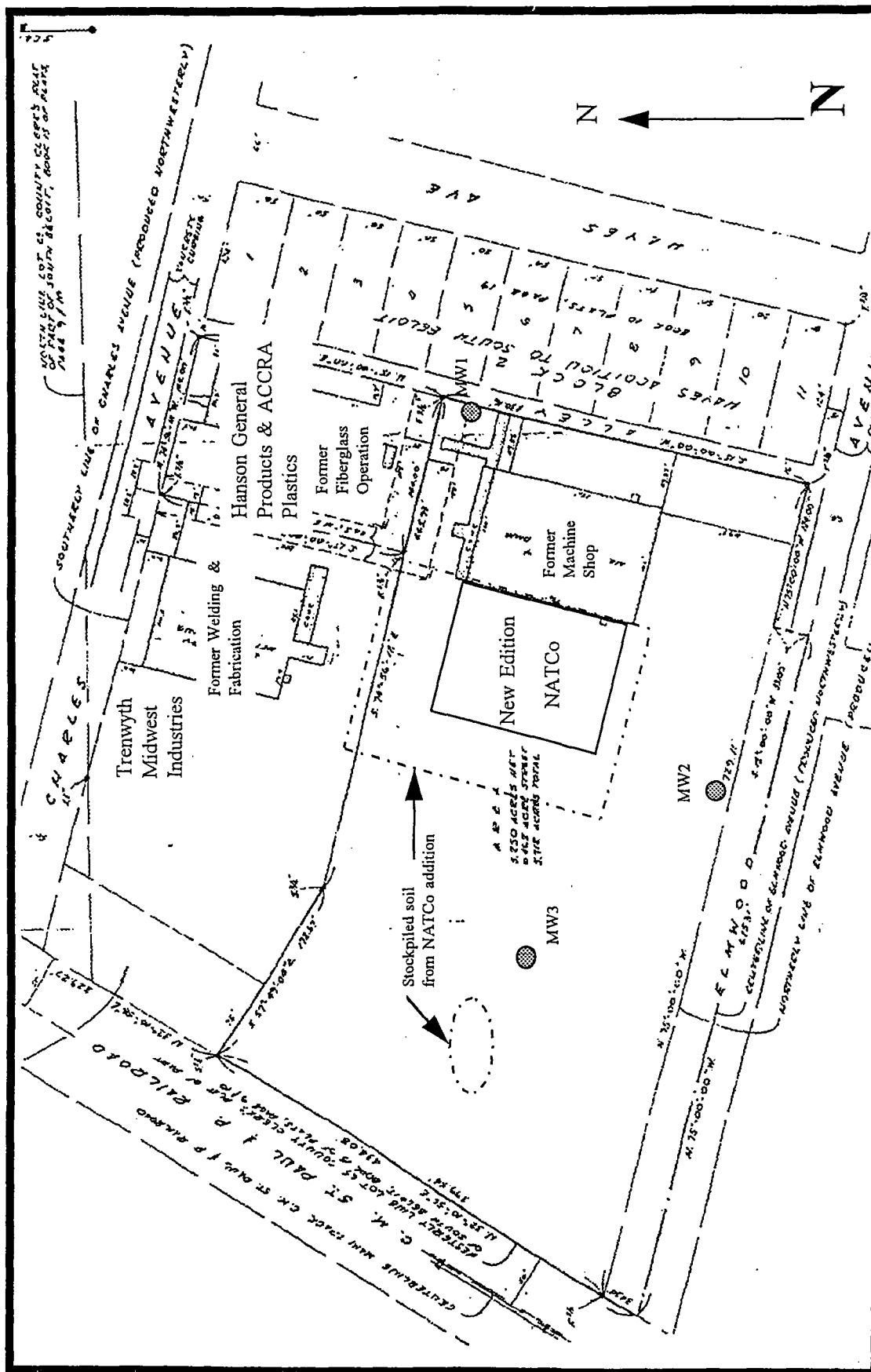
The facility consisted of three, one-story buildings. A site layout map is included in Figure 2. The building on the northeastern corner of the property housed the fiberglass operation, where tanks and sprayers were built. Welding and fabrication occurred in a second structure located west of the fiberglass operation. The third General Hydraulics building, which housed the machine shop, was located at the southern end of the property. According to file information, much of the General Hydraulics wastes were generated at the machine shop in the form of cutting oil and solvents. In April 1981, the Illinois Environmental Protection Agency (IEPA) discovered that the facility was using a Wisconsin transport company to transport wastes without manifests.

General Hydraulics declared bankruptcy in 1984, and in the following year the court parceled the property for sale. During the sale process, one of the prospective buyers rescinded their purchase agreement after abandoned, leaking waste drums and visibly contaminated soil were discovered onsite. Several investigations occurred as a result of this finding. An IEPA inspection of the site uncovered two disposal areas. One of the areas was characterized by a "reddish-brown" granular material, and the other consisted of drums, pails, wooden crates, tires and other trash. It was estimated that 112 to 120 55-gallon drums and 25 to 50 5-gallon pails of unknown waste material had been abandoned onsite.

The bankruptcy court contracted Frinks Industrial Waste (FIW) to sample and remove the waste. Composite samples were obtained from the drums. According



SOURCE: USGS South Beloit Quadrangle, 7.5 minute series.



Site Layout Map
 Focused Site Inspection Prioritization
 General Hydraulics
 South Beloit, Winnebago County, Illinois

Figure 2

SOURCE: IEPA CERCLA Screening Site Inspection, 1991, revised 8/3/95 by ARCS contractor.

to file information, nine of the drums were found to contain hazardous waste, based on flashpoint. Several soil samples showed Extraction Procedure Toxicity for lead, chromium, and barium. Four monitoring wells were installed for the bankruptcy trustees by Rapp and Associates of Springfield, Illinois. The wells were sampled in December 1987. Three wells remain on the site property. One well reportedly was destroyed when a portion of the property was transferred to Trenwyth Industries Midwest Inc.

Analytical results of well samples taken from the northwestern parcel, as well as from the parcel with the fiberglass operation, indicated the presence of tetrachlorethene (PCE). FIW sampled drum contents and soil beneath a buried 55-gallon drum that was connected to a stand pipe and allegedly used for waste disposal. No organic compounds were found. The pipe was subsequently sealed with concrete.

Trenwyth Midwest Industries purchased the northwestern parcel, including the welding and fabrication building. The welding and fabrication shop was converted for use in their acrylic glaze operation. File information indicates that no hazardous waste is generated in their process.

Mr. Hanson retained the smallest portion of the site, which contained the fiberglass operation. Hanson General Products and Accra Plastics formed a combined company after the bankruptcy of General Hydraulics.

The North American Tool Company (NATCo) now occupies the parcel that contained the machine shop, and has built an addition over the area where the stand pipe was allegedly utilized to discard General Hydraulics machine shop waste. Samples were taken, and 3,870 cubic feet of contaminated soil were excavated before the construction of the addition in May 1991. The excavated soil was stockpiled on plastic, west of the building. The soil was still onsite on May 17, 1995. NATCo manufactures tap and die tools, and reportedly utilizes equipment that enables them to recycle some of their cutting fluid. File information indicates that NATCo maintains a "less than 90-day" storage pad for Resource Conservation and Recovery Act generated wastes. Approximately 85 people are employed at NATCo.

2.2 Past Site Characterization Studies

On October 22, 1991, a USEPA contractor conducted a reconnaissance inspection to complete an SSI for the General Hydraulics site. Seven surface soil samples and nine residential well samples were collected and analyzed, following USEPA Contract Laboratory Program protocol. Both the Trenwyth and Accra

Plastics wells were also sampled during the SSI. Analytical results of soil samples indicated an observed release of methyl chloride, acetone, 1,2-dichloroethene (total), PCE, toluene, xylene, acenaphthene, dibenzofuran, fluorene, phenanthrene, anthracene, flouranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)flouranthene, benzo(k)flouranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, DDD, DDT, and aroclor. Analytical results of the residential well samples indicated 7 parts per billion of PCE in two of the wells; however, no background sample was taken for comparison. The drinking water wells of Trenwyth and Accra Plastics also showed the presence of PCE.

2.3 FSIP Site Reconnaissance/Sampling

A reconnaissance visit was performed at the General Hydraulics site by the ARCS V contractor on May 17, 1995. The photographs taken as part of site reconnaissance are included in Appendix A.

The three current property owners include NATCo, which occupies the southern half of the original property; Accra Plastics, which occupies the northeastern corner of the original property; and Trenwyth, which occupies the northwestern corner of the original site. In 1985, Henry Smith bought the property where Accra Plastics is now located; he sold the property to Accra in 1990. Allen and Rhoda Kingston bought the land where Trenwyth is located in April 1986; they lease the property to Trenwyth. NATCo bought its property in November 1986. Monitoring wells had been installed and drums had been removed from the property. In 1990, NATCo started excavation for a building addition. Potentially contaminated soils were encountered. NATCo hired Warzyn to conduct a soil gas survey, collect monitoring well samples, and remove and stockpile soils from the foundation excavations. IEPA sampled the onsite stockpiled soil in 1992. Currently, the soils are stockpiled on plastic, and surrounded by a plastic snow fence. Two plastic passive vents made of 4-inch diameter perforated PVC pipe are present.

Some questions regarding groundwater flow direction were raised during the reconnaissance meeting with site occupants. One site occupant believed that groundwater is flowing southwest; therefore, any contamination present in the groundwater is probably coming from an offsite source. Not all site occupants received copies of the sampling reports, and they were unaware of the presence of PCE in some wells.

During the reconnaissance, surface drainage from the southern side of the employee parking lot appeared to flow west, where it ponded near the railroad tracks. Drainage from the border between NATCo and Trenwyth flows west, and ponds just west of Trenwyth's brick yard. Surface water ultimately flows into the Rock River. The stockpiled soil appears to be 15 to 20 feet wide, and 100 to 200 feet long. It is located along the railroad tracks near the western edge of the property.

There are a number of private homes next to the site along Hayes Street that have groundwater wells in the surficial aquifer.

3.0 Pathway Evaluation

The FSIP program evaluated four contaminant transport pathways: air, groundwater, surface water, and soil exposure.

3.1 Groundwater Pathway

The General Hydraulics site is located in Winnebago County, Illinois, where the important aquifers are the surficial sand and gravel, the Silurian dolomite bedrock, and the Cambrian-Ordovician bedrock aquifers. The Quaternary glacial till and alluvial deposits in the South Beloit area range from less than 30 feet on the western side of the Rock River to more than 225 feet on the eastern side of the river. These unconsolidated surficial deposits are underlain by the Silurian dolomite bedrock. The deeper Ordovician system, which includes the Maquoketa shale, a regional aquitard; Galena-Platteville dolomite; the St. Peter sandstone; and the Trempealeau dolomite. The Cambrian system underlies these formations, including the Franconia Formation (interbedded shale, sandstone, and dolomite); Ironton-Galesville sandstone; Eau Claire Formation (green to red shale with interbedded dolomite and sandstone); and the Mt. Simon sandstone. Most residents within 4 miles of the site obtain drinking water from private or municipal wells. Private wells are assumed to be completed in the surficial sand and gravel aquifer. Municipal wells are completed in both the surficial sand and gravel and in the Cambrian-Ordovician bedrock aquifer systems, and serve populations within 4 miles of the site.

The nearest residential drinking water well completed in the surficial sand and gravel aquifer is approximately 50 feet from the site. Several residences across from the site along Hayes Street are served by private wells. The nearest well completed in the deep sandstone bedrock aquifer is a Wisconsin Power and Light well located 0.2 miles east of the site. An estimated 38,604 people are served by wells completed in the surficial or deep bedrock sandstone aquifers within a 4-mile radius of the site. The deep wells are most likely completed in the Glenwood-St. Peter or the Ironton-Galesville sandstones, which are part of the Ordovician/Cambrian aquifer system. The municipal well systems include the Rockton, South Beloit, Goldie Floberg Center, and Wisconsin Power and Light.

Site occupants are also served by groundwater wells. Trenwyth Midwest Industries employs approximately 81 individuals, and drinking water is reportedly charcoal filtered from a 15-foot well at the facility. Reportedly, Hanson General

Products and Accra Plastics supply bottled water for its 10 to 15 employees; however, a well is present onsite. NATCo reportedly obtains drinking water from the City of South Beloit.

3.2 Surface Water Pathway

Surface water from the site drains 700 feet west into the Rock River. Flow continues within the Rock River for 15 miles to the end of the surface water pathway. The site is located within the 100-year flood plain of the Rock River.

The Rock River is used for recreation, including swimming, boating, skiing, canoeing, and fishing. Wetland areas occur along a 13-mile portion of the surface water pathway. The Nononegah Forest Preserve is located approximately 5.5 miles downstream of the site. There are no known sensitive aquatic species along the 15-mile downstream surface water route.

3.3 Soil Exposure Pathway

The site is located in an urban industrial/residential area. About 181 workers are employed at the three businesses occupying the site. Residents live within 50 feet of the site along Hayes Street. Approximately 1,605 people live within 1 mile of the site. South Beloit High School, Wheeler School, and Riverview School lie within 0.5 miles of the site. St. Peters schoolyard lies within 200 feet of the site. Soil samples collected during the 1991 SI indicated the presence of methyl chloride, acetone 1,2-dichloroethene (total), PCE, toluene, xylene, acenaphthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, DDD, DDT, and aroclor. No organic hazardous substances were detected in the offsite soil sample collected at the St. Peters schoolyard which is located within 200 feet of the site.

The site is not fenced, and has the potential for public access.

3.4 Air Pathway

No air contamination has been documented or reported. No air samples have been collected at the site. Approximately 18,366 people live within a 4-mile radius of the site. There are 181 onsite workers. Approximately 10 acres of wetlands are present within a 4-mile radius of the site; however, no additional sensitive environments occur within 1 mile of the site.

4.0 Summary

The ARCS V contractor conducted a site reconnaissance and a thorough review of the available files associated with the General Hydraulics site, and concluded that the onsite soil constituted a possible source of contamination for several migration pathways. The site poses a potential public health concern because of the large surrounding population that is served by groundwater. Samples collected during the 1991 IEPA SI identified hazardous substances in onsite soil. Several of the hazardous substances detected in onsite soils were also detected in onsite and offsite drinking water wells.

5.0 References

- ARCS Contractor, Field Log Book, General Hydraulics Site Reconnaissance, May 17, 1995.
- CERCLA Screening Site Inspection Report, General Hydraulics, Winnebago Co., ILD 984 767 806, July 2, 1992.
- Groundwater Geology of Winnebago County, Illinois, Illinois State Geological Survey, Report of Investigations 213, 1960.
- IEPA, Division of Public Water Supplies, List of Public Water Supplies Utilizing Surface Water.
- IEPA, Division of Public Water Supplies, GWM Raw Source Location Report, July 16, 1992.
- Site Investigation, North American Tool Corporation, South Beloit, Illinois, Warzyn Engineering Inc., November 1990.
- U.S. Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory, 1988, South Beloit, Rockford North.
- U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps of Illinois: Beloit, WI; Shopiere, WI; South Beloit, IL; Belvidere NW, IL, 1986.
- FIRM Flood Insurance Rate Map, City of South Beloit, IL, County of Winnebago, IL, May 1, 1984.

Appendix A
Site Reconnaissance Photographs

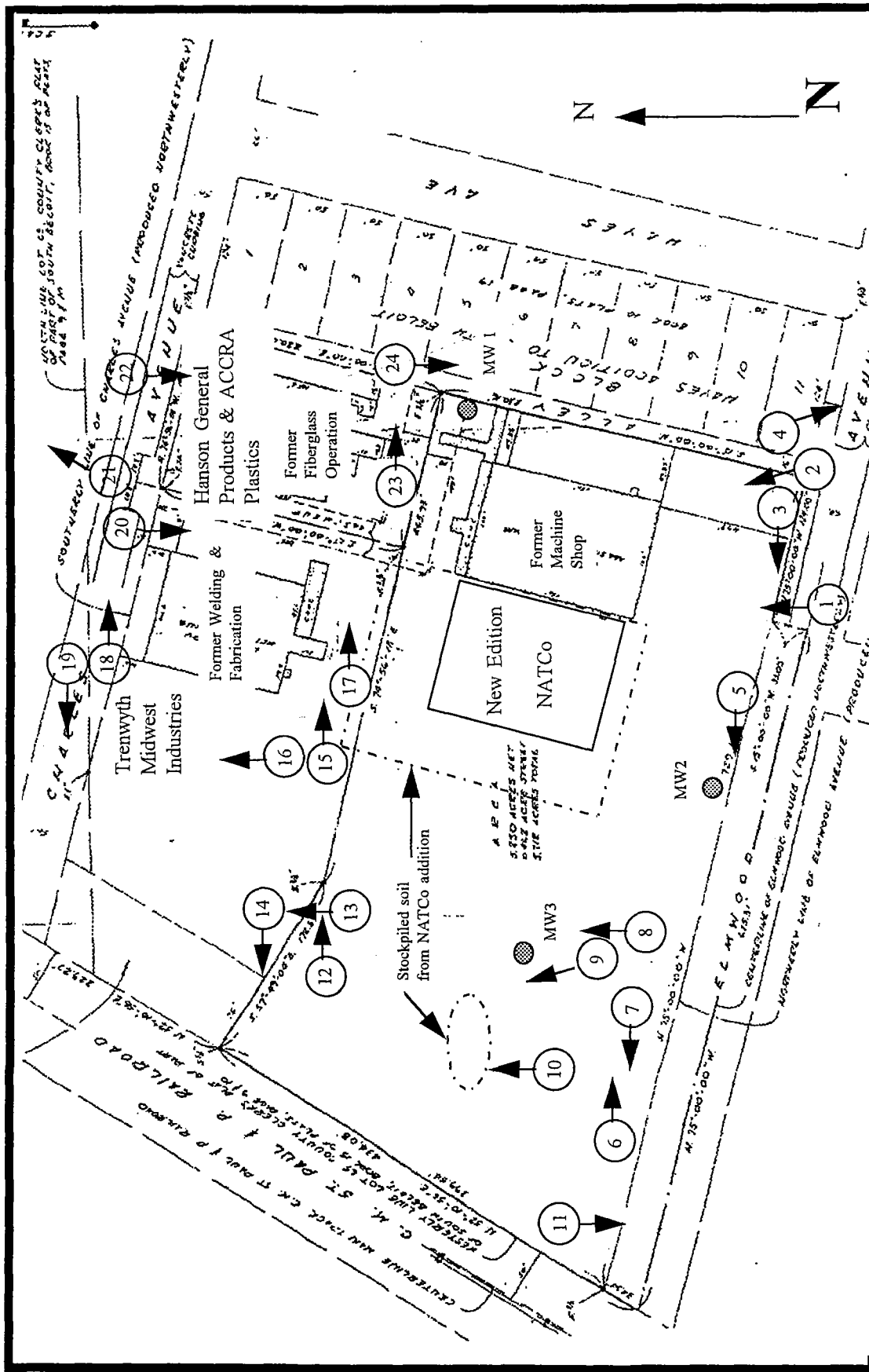


Photo Location Map
 Focused Site Inspection Prioritization
 General Hydraulics
 South Beloit, Winnebago County, Illinois

Figure 3

SOURCE: IEPA CERCLA Screening Site Inspection, 1991, revised 8/3/95 by ARCS contractor.

Date: May 17, 1995
Time: 1144
Photo Taken By: J. Noyes
Photo Number: 1
Site/ILD No.: General Hydraulics/ ILD984767806
Direction of Photo: Facing North
Description: From Elmwood Avenue, looking at the Corporation sign for NATCO.



Date: May 17, 1995
Time: 1145
Photo Taken By: J. Noyes
Photo Number: 2
Site/ILD No.: General Hydraulics/ILD984767806
Direction of Photo: Facing Northwest
Description: From southeast corner of site, NATCO building and ACCRA building in background.



Date: May 17, 1995
Time: 1145
Photo Taken By: J. Noyes
Photo Number: 3
Site/ILD No.: General Hydraulics/ ILD984767806
Direction of Photo: Facing West
Description: From southeast corner of site, parking lot and railroad in background.



Date: May 17, 1995
Time: 1145
Photo Taken By: J. Noyes
Photo Number: 4
Site/ILD No.: General Hydraulic ILD984767806
Direction of Photo: Facing southeast
Description: From southeast corner of site in alley and Elmwood Avenue, picture of St. Peter School.



Date: May 17, 1995
Time: 1148
Photo Taken By: J. Noyes
Photo Number: 5
Site/ILD No.: General Hydraulics/ILD984767806
Direction of Photo: Facing West
Description: From entrance to site, center of Donner, Picture of south border including monitoring well.



Date: May 17, 1995
Time: 1152
Photo Taken By: J. Noyes
Photo Number: 6
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing East
Description: From southwest corner of employee parking lot along south property line.



Date: May 17, 1995
Time: 1154
Photo Taken By: J. Noyes
Photo Number: 7
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing West
Description: Ponding water, CP railroad in background.



Date: May 17, 1995
Time: 1155
Photo Taken By: J. Noyes
Photo Number: 8
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing North
Description: Same location as in photo 7. Employee parking lot and Trenwyth cinder block yard in background.



Date: May 17, 1995
Time: 1158
Photo Taken By: J. Noyes
Photo Number: 9
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing Northwest
Description: Photo of monitoring well in foreground and soil waste pile in background.



Date: May 17, 1995
Time: 1200
Photo Taken By: J. Noyes
Photo Number: 10
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing North
Description: South end of stockpiled soil; note ventpipes, healthy vegetation growing, and plastic liner.



Date: May 17, 1995
Time: 1210
Photo Taken By: J. Noyes
Photo Number: 11
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing South
Description: From southwest corner of site.
Surface water appearing to drain south along tracks;
McLeary's Snack Foods w/Tanks and Precision
Fabricators in the Far South Background.



Date: May 17, 1995
Time: 1230
Photo Taken By: J. Noyes
Photo Number: 12
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing East
Description: Property line between NATCO and
Trenwyth from the west.



Date: May 17, 1995
Time: 1231
Photo Taken By: J. Noyes
Photo Number: 13
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Facing North
Description: From the same location as in Photo 12, ponded water west of Trenwyth Brickyard.



Date: May 17, 1995
Time: 1232
Photo Taken By: J. Noyes
Photo Number: 14
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: West
Description: Taken from the same location as in Photo 12. CP railyard. Note: pails and metal plates.



Date: May 17, 1995
Time: 1238
Photo Taken By: J. Noyes
Photo Number: 15
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: East
Description: Taken from southwest corner of Trenwyth Brickyard. Picture of brickyard. Note that ACCRA is the brown building. Note residential home in the background.



Date: May 17 1995
Time: 1239
Photo Taken By: J. Noyes
Photo Number: 16
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: North
Description: Taken from the same location as Photo 15. Brickyard.



Date: May 17 1995
Time: 1246
Photo Taken By: J. Noyes
Photo Number: 17
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: East
Description: Taken from west end of drainage ditch between NATCO and Trenwyth.



Date: May 17 1995
Time: 1248
Photo Taken By: J. Noyes
Photo Number: 18
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: East
Description: Taken from the northwest corner of the site.



Date: May 17, 1995
Time: 1248
Photo Taken By: J. Noyes
Photo Number: 19
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: West
Description: Taken from the same location as Photo 18. CP Railroad of Beloit.



Date: May 17, 1995
Time: 1252
Photo Taken By: J. Noyes
Photo Number: 20
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: South
Description: From north central area of the site between Trenwyth and ACCRA, NATCO in background.



Date: May 17, 1995
Time: 1254
Photo Taken By: J. Noyes
Photo Number: 21
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: Northeast
Description: Taken from from the same location as Photo 20. Neighboring car paint shop.



Date: May 17, 1995
Time: 1255
Photo Taken By: J. Noyes
Photo Number: 22
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: South
Description: From Charles Street. ACCRA Industries Building and sign.



Date: May 17, 1995
Time: 1304
Photo Taken By: J. Noyes
Photo Number: 23
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: East
Description: From center of east edge of site.
Monitoring well and residential homes.



Date: May 17, 1995
Time: 1305
Photo Taken By: J. Noyes
Photo Number: 24
Site/ILD No.: General Hydraulics/ILD 984767806
Direction of Photo: South
Description: Looking down the alley between the
site and the residential homes of Hayes street.

